

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001530**Date Inspected:** 22-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Fu Yu Hong**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Production Monitoring test (PMT) and Fabrication

The QA inspector performed random fit-up verifications to the PMT coupons and Deck Panels DP-013-001 and DP-018-001 at the junction of the U-ribs to deck plate. The QA inspector found that U-ribs fit-up appeared to be in compliance with the contract documents.

The QA inspector witnessed the welding operations on the PMT at the junction of the 800 mm U-ribs and the deck plate.

The PMT started at approximately 0903 hours. The QA inspector observed welding operators Han Chang Hou welder ID # 059464, Chen Jie ID # 059468, Dong Yi Gun ID # 059450, Jian Ting Guang ID # 062265, Yuan Fen Chuan ID # 059355 and Gao Xin Dong 059361 performing welding operations on the root pass weld joints # 1 thru 6 respectively with the automatic Gantry Lincoln machine with the gas metal arc welding (GMAW) process on the metal transferring with spray transfer mode following the welding procedure specification (WPS)WPS-B-T-2342-U1(Urib).

ZPMC had approximately one (1) control panel operator, six (6) Welding operators, one (1) QC inspector, two (2) QC representatives, one(1) Supervisor and six (6)Grinders. ABF representative Mr. Warren Buehler, ZPMC representatives Mr. Shen Xue Jun and Caltrans representatives Mr. Robert Cuellar, Larry Viars, Mr. Alistair Melville, and Mr. Bruce Berger were present at the OBG fabrication shop.

ZPMC certified welding inspector Chen Xi performed visual weld inspection to the root pass. ZPMC found that welds were in accordance with the contract documents.

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Deck Panel DP-013 Welding

The QA inspector observed ZPMC welding operators welding on the production deck panel DP-013 at the weld joint (WJ) # 1, Han Chang Hou, WJ # 2, Chen Jie, WJ # 3 and 5, Gao Xin Dong and WJ # 4 and 6, Jiang Tin Guang, and the control panel operator Li Xi De.

The QA inspector found an area with rust on the weld # 1. The QA inspector had a conversation with Caltrans representative Larry Viars. Mr. Larry Viars relayed that he informed on 02/21/2008 to ZPMC about the rust located at the bevel groove preparation on weld joint # 1. ZPMC started welding with the GMAW process on weld # 1. The QA inspector showed the rusted area on weld # 1 to a representative of Bureau of Veritas (with ABF). Bureau of Veritas representative showed the area to the QC inspector Chen Xi. ZPMC did not clean rust area before welding over. The QA inspector had a conversation with ABF representatives Dave LeRue and Warren Buehler and ZPMC QC representative Shen Xue Jun. The QA inspector brought to the attention of ABF representatives that ZPMC representative that ZPMC did not removed the rust at weld # 1 on the the partial penetration joint preparation identified by the QA inspector Larry Viars and the QA inspector. ZPMC and ABF representatives relayed to the QA inspector that they were going to write an incident report for ZPMC production personnel welding over rust.

Note: After completing the deck panel DP-013-001, ZPMC proceed welding the root passes from deck panel DP-18-001 without completing welding and testing the PMT coupons. An incident report was written to address this non compliant condition.

Caltrans QA Inspector performed ultrasonic testing of the production monitoring test # 8 that was welded on 02-21-2008. The ultrasonic tested areas revealed two areas of the closed rib PJP groove welds that do not meet the 80% depth of penetration requirements. The identified areas at two separate locations measured 20mm in length and 12mm in length. This discrepancy was observed by ABF Representative Warren Buehler and confirmed by ZPMC ultrasonic testing supervisor Li Li Ming.

Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
